

CHAPTER 3

3. METHODOLOGY

This chapter presents the research framework, data sampling, measurements of the variables and data analysis techniques.

3.1 Framework of the study

Based on the framework developed by Amabile *et.al* (1996), the following framework has been developed for this study. Some modifications have been made by adding a mediator and moderating variables. Innovative behaviour has been used as the dependent variable instead of creativity.

Organizational Climate (independent Variable)

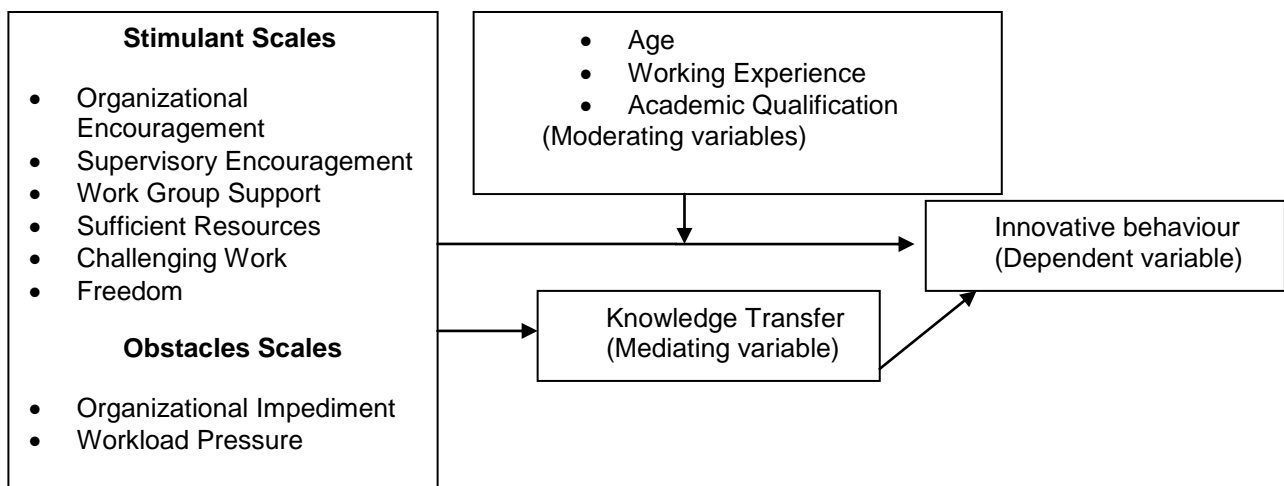


Figure 3.1: Framework of the study

3.2 Respondents

The study was conducted at an R&D agency under the Ministry of Plantation Industries and Commodities Malaysia. Convenience sample was employed for this study. This type of sampling method requires less time to implement and was chosen due to the limited time frame for the completion of this study. The data was collected by using a questionnaire. The questionnaire was administered and collected personally by the author. From 210 survey forms distributed, 200 participants responded giving a response rate of 95 percent. The return rate was high because the questionnaire forms were given personally to the respondents by the author and frequent follow up were made. Some of the questionnaires were administered during the training sessions at the headquarters of the agency.

3.3. Data analysis techniques

All data analyses were performed by using SPSS software version 17. Descriptive statistics were used to describe the characteristics of the variables of interest. Standard Pearson correlation and regression procedures were used to examine the interrelationships among the study variables. *P*-values less than or equal to .05 are considered significant. The regression analysis was applied to

determine the order of entry for the independent variables. Multiple regression analysis was also used to determine the mediating effect of knowledge transfer and moderating effect of demographic factors in the relationship between innovative behaviour and organizational climate.

Reliability statistics (Cronbach Alpha) were also computed to assess the reliability of measurements for each variable.

3.4 Measurement

The questionnaire was divided into 4 sections. The first section contained questions about the organizational climate (independent variable), the second section about knowledge transfer (mediating variable) and the third section about innovative behaviour (dependent variable). The fourth section covered the demographic information (moderating variable).

To measure the organizational climate (OC), this study used the organizational climate survey called KEYS: *Assessing the Climate for Creativity* developed by Amabile *et.al* (1996). This tool is reliable and valid as it was developed based on rigorous research. When they developed this tool, it was not only based on the previous research but also through critical-incidents study which involved 120 R &D scientist and technicians. The respondents were asked to describe a high creativity event from their work experience as well as a contrasting low

creativity event (Amabile *et.al*, 1996). Amabile *et.al* (1996) highlighted that KEYS was designed to assess perceptions of all of the work environment dimensions that have been proposed as important in empirical research and theory on creativity in organizations. Indeed, KEYS is recommended because KEYS scales have acceptable factors structures, internal consistencies, test-retest reliabilities and preliminary convergent and discriminate validity (Amabile *et.al* 1996). The most important fact is KEYS was developed because they believed that, for organizational theory, research, and practice, an instrument based in the organizational literature and tested in the organizational setting is most appropriate. A KEYS assesses six management practices that encourage creativity and innovation which includes the following:-

Organizational encouragement – An organizational culture that encourages creativity through the fair, constructive judgment of ideas; reward and recognition for creative work; mechanisms for developing new ideas; an active flow of ideas; and a shared vision.

Supervisory encouragement – A supervisor, who serves as a good work model, sets goals appropriately, supports the work group, values individual contributions, and shows confidence in the work group.

Work group supports – A diversely skilled work group in which people communicate well, are open to new ideas, constructively

challenge each other's work, trust and help each other, and feel committed to the work they are doing.

Sufficient resources – Access to appropriate resources, including funds, materials, facilities, and information.

Challenging work – A sense of having to work hard on challenging tasks and important projects.

Freedom – Deciding what work to do or how to do it; a sense of control over one's work.

KEYS also assess two management practices that inhibit creativity. The following dimensions are called obstacle scales because these variables have a potential to inhibit the creativity and innovation.

Organizational impediments – An organizational culture that impedes creativity through internal political problems, harsh criticism of new ideas, destructive internal competition, an avoidance of risk, and an overemphasis on the status quo.

Workload pressure – Extreme time pressures, unrealistic expectations for productivity, and distractions from creative work.

As recommended by Amabile *et.al* (1996), a four-point response scale is used on KEYS. The purpose was to avoid a midpoint in order to force respondents away from a neutral default option. The respondents were asked “how often true” the statements from their individual perspective about their current work environment. The four responses could be (1) never or almost never, (2) sometimes, (3) often and (4) always or almost always.

Since KEYS is registered trademarks owned by the Centre for Creative Leadership (CCL) in the USA, the author attained approval prior to using the instrument. The approval is attached in Appendix 2.

Innovative behaviour was measured with 6 items based on the work of Scott and Bruce (1994). Like KEYS, respondents were asked about their perception on “how often true” the statement given pertaining to their innovative behaviour. The same options of feedbacks were given: (1) never or almost never, (2) sometimes, (3) often and (4) always or almost always.

To measure Knowledge Transfer, the instrument developed by Rhodes *et.al* (2008) was used. Seven questions were asked to measure the knowledge transfer among the respondents. Like the above measurements, the same method was applied. All items in the questionnaire are attached in the Appendix 3.